Combating Fatigue from an Integrative Medicine Approach

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Integrative Medicine Program

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Land Acknowledgement

Fred Hutchinson Cancer Center acknowledges the Coast Salish peoples of this land, the land which touches the shared waters of all tribes and bands within the Duwamish, Puyallup, Suquamish, Tulalip and Muckleshoot nations.
3 Key Points for Today’s Presentation

• Define Integrative Medicine and Integrative Oncology

• Define cancer-related fatigue and understand contributing factors

• Identify evidence-based Integrative Medicine strategies and practices to “combat” cancer-related fatigue
Part 1: Define Integrative Medicine
Definitions

Traditional Therapies - culturally-based health practices

Alternative Therapies - used *in place of* conventional medicine

Complementary Therapies - used *with* conventional medicine

Integrative Medicine (IM) - *coordinated use* of evidence-based complementary therapies

National Center for Complementary and Integrative Health (NCCIH), 2022
Integrative Oncology

- Patient-centered, evidence-informed field of cancer care
- Utilizes mind and body practices, natural products, and lifestyle modifications
- Aims to optimize health, quality of life, and clinical outcomes
- Empowers people to prevent cancer and become active participants before, during, and beyond cancer treatment

Fred Hutchinson Cancer Center

Witt et al., *JNCI Monographs*, 2017
Integrative Oncology Therapies & Modalities

Lifestyle
Nutrition, Exercise, Weight management

Mind & Body Practices

Natural Products
Complementary & Integrative Medicine Use Among Cancer Survivors

- **High and rising use** by cancer patients and survivors
  - 60-80% of US cancer survivors use integrative medicine
- **Patient goals for use**
  - Increase Survival
  - Increase the efficacy treatment
  - Prevent & treat side effects
  - Treat existing comorbidities
  - Improve the quality of life
  - Decrease stress
  - Feel better
  - General nutrition consultation

People need advice on:
- What works
- What doesn’t work
- What is safe
Integrative Medicine at Fred Hutch: Program Framework

- Support patients during and after conventional treatment, throughout survivorship, and near end of life
- Services focus on symptom management and quality of life: pain, fatigue, anxiety/depression, stress, nausea, disordered sleep, peripheral neuropathy, nutrition, and physical activity
- Resources are available for patients, families, clinicians, and Fred Hutch staff with an educational focus
- We provide a platform for novel patient-centered research
Integrative Medicine: Division of Supportive Care

- Collaboration
- Coordination
- Referrals
Integrative Medicine Clinical Team

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Heather Greenlee, ND, PhD

Manager, Integrative Medicine
Jonathan Siman, DACM, LAc

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Susan Veleber, DACM, LAc
Melissa Romeo, PhD, LAc
Katherine Taromina, DACM, LAc
Part 2: Define fatigue and contributing factors
What is fatigue?

- An overall feeling of the following:
  - Tiredness, lack of energy, or lack of motivation
  - Difficulty or inability to initiate activity
  - Reduced capacity to maintain activity
  - Difficulty with concentration, memory, and emotional stability
What is cancer-related fatigue (CRF)?

“Cancer-related fatigue (CRF) is a distressing, persistent, subjective sense of physical, emotional, and/or cognitive tiredness or exhaustion related to cancer or cancer treatment that is not proportional to recent activity and interferes with usual functioning.”
How do people describe fatigue?

- Heavy. Slow.
- Like they have no energy or get up and go.
How common is cancer-related fatigue?

• Fatigue is the most common side effect of cancer treatment
• 80% report fatigue during chemo or radiation
• 39-90% report fatigue while undergoing cancer treatment
• 19-82% report fatigue post-treatment
• For some, severe fatigue may be significant long into survivorship: 30% of stage I-III breast cancer survivors from diagnosis to year 4
How do we rate fatigue?

• Ask the person to rate it on a scale from 0-10
• 0 = no fatigue; 10 = worst imaginable fatigue
• 1-3 = mild fatigue
• 4-6 = moderate fatigue
• 7-10 = severe fatigue

Bower et al., J Clin Oncol, 2014
What areas of life does fatigue (CRF) impact?

- Mood. Physical function.
- Social interaction. Family care.
- School work. Community activities.
- Sense of self.
- Activities of daily living in older cancer survivors.
What are contributing factors for CRF?

- Cancer treatment
- Pain, depression, anxiety, emotional distress, sleep disturbances
- Nutritional issues: weight/caloric intake
- Alcohol/substance abuse
- Activity level: excessive inactivity
- Anemia
- Medications: sleep aids, pain medications, antiemetics
- Comorbidities: heart, lungs, kidneys, endocrine, arthritis, neuromuscular
Part 3: Identify Integrative Medicine strategies and practices to “combat” fatigue
“Combat” fatigue by addressing contributing factors

- Pain, depression, anxiety, emotional distress, sleep disturbances
- Nutritional issues: weight/caloric intake
- Alcohol/substance abuse
- Activity level
- Complementary therapies or alternatives to medication: sleep aids, pain medications, or antiemetics
- Treat underlying medical conditions
Integrative Oncology Therapies & Modalities

- **Lifestyle**
  - Nutrition,
  - Exercise,
  - Weight management

- **Mind & Body Practices**

- **Natural Products**
Lifestyle: Nutrition

- Nutritional issues
- Underweight?
- Overweight?
- Caloric intake changes?
- Cancer-treatment-related issues (gastrectomy, esophagectomy, colectomy)
- Work with a dietitian/nutritionist to assess and address nutritional needs
Lifestyle: Nutrition for Cancer Prevention

- Limit consumption of red and processed meat
- Limit consumption of sugar sweetened drinks
- Limit consumption of fast foods' and other processed foods high in fat, starches or sugars
- Eat a diet rich in whole grains, vegetables, fruit and beans
- Be physically active
- Be a healthy weight
- Limit alcohol consumption
- Do not use supplements for cancer prevention
- For mothers: breastfeed your baby, if you can
- After a cancer diagnosis: follow our recommendations, if you can

Not smoking and avoiding other exposure to tobacco and excess sun are also important in reducing cancer risk. Following these recommendations is likely to reduce intakes of salt, saturated and trans fats, which together will help prevent other non-communicable diseases.

©World Cancer Research Fund International dietandcancerreport.org
Lifestyle: Nutrition

HEALTHY EATING PLATE

Use healthy oils (like olive and canola oil) for cooking, on salad, and at the table. Limit butter. Avoid trans fat.

The more veggies – and the greater the variety – the better. Potatoes and French fries don’t count.

Eat plenty of fruits of all colors.

Whole Grains

Drink water, tea, or coffee (with little or no sugar). Limit milk/dairy (1-2 servings/day) and juice (1 small glass/day). Avoid sugary drinks.

Healthy Protein

Eat a variety of whole grains (like whole-wheat bread, whole-grain pasta, and brown rice). Limit refined grains (like white rice and white bread).

Choose fish, poultry, beans, and nuts; limit red meat and cheese; avoid bacon, cold cuts, and other processed meats.

Stay Active!

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Harvard T.H. Chan School of Public Health
The Nutrition Source
www.hsph.harvard.edu/nutritionsource

Harvard Medical School
Harvard Health Publications
www.health.harvard.edu

Harvard Healthy Eating Plate, 2023
Lifestyle: Nutrition Study - Fatigue Reduction Diet

- **Purpose**: Fatigue is linked to chronic inflammation and diets high in antioxidant nutrients are associated with lesser prevalence and severity of fatigue

- **Population**: Stage 0 to III breast cancer survivors who had completed treatment (N=30)

- **Intervention**: Fatigue Reduction Diet (FRD) a 3-month diet (no change in total calories) rich in fruit, vegetables, whole grains, and omega-3 fatty acid-rich foods (fish, walnuts)

- **Comparison**: General health curriculum (GHC)

- **Outcome**: Fatigue (Brief Fatigue Inventory 0-10) and sleep quality (19 items)

Zick et al., Breast Cancer Res Treat, 2017
Lifestyle: Nutrition Intervention

- At least half of grain intake from whole grains
- Five servings of vegetables (one leafy green, one tomato, and one yellow or orange)
- Two servings of fruit (one high in vitamin C)
- One serving of fatty fish
- One serving of omega-3 fatty acid-rich nuts, seeds, or their associated oils (two servings of nuts or seeds for vegetarians)
Lifestyle: Nutrition Intervention

- Significant decrease in fatigue in FRD group compared to GHC (p < 0.01)
- Significant decrease in sleep interference in FRD compared to GHC group (p = 0.03)

### Table 3

Fatigue and sleep measures by treatment group and visit:

<table>
<thead>
<tr>
<th>Measures</th>
<th>Fatigue reduction diet</th>
<th>General health curriculum</th>
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<tbody>
<tr>
<td></td>
<td>Mean ± SD</td>
<td>Mean ± SD</td>
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<tr>
<td></td>
<td>Baseline</td>
<td>3 months</td>
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<tr>
<td>Brief fatigue inventory^2</td>
<td>5.4 ± 1.1</td>
<td>3.0 ± 2.2</td>
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<tr>
<td>PSQI^d total score (all)^2</td>
<td>6.8 ± 3.9</td>
<td>3.9 ± 2.1</td>
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<tr>
<td>PSQI^d total score^b</td>
<td>Greater than or equal to 5</td>
<td>8.3 ± 3.3</td>
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Lifestyle: Physical Activity
Lifestyle: Physical Activity

- Meta-analysis of 27 post-treatment exercise trials found exercise training significantly reduced fatigue.
- Number needed to treat was 4 people.

Bower et al., J Clin Oncol, 2014
Lifestyle: Physical Activity

• Actively encourage all patients to engage in a moderate level of physical activity after cancer treatment

• 150 minutes of moderate aerobic exercise per week

• Example: fast walking, cycling, or swimming

• Plus: two to three sessions per week of strength training, such as weightlifting, unless contraindicated
Lifestyle: Physical Activity Considerations

- Walking programs are generally safe for most cancer survivors
- Consult with a physician before starting any program
- Survivors with a high risk of injury (neuropathy, cardiomyopathy, treatment effects) should be referred to a physical therapist or exercise specialist
- If lymphedema (breast cancer survivors) consult with an exercise specialist before upper-body strength training
- Severe fatigue interfering with function: referral to physical therapist or physiatrist
Lifestyle: Physical Activity Tips

• Start slowly and increase from 10 to 20 minutes
• Take frequent breaks as needed
• Goal is to preserve and improve function
• Modify activity as needed
• Start by walking, invite others to join
• Use a pedometer and slowly work toward 10,000 steps per day
• Use a journal and record your activity, symptoms, and how you feel
Mind and Body Practices:
Psychoeducational Therapies

• Psychoeducational therapies have been shown to be effective for fatigue through randomized trials and systematic reviews

• One effective internet-based intervention provided tailored information on:

• Cancer-related fatigue, physical activity, pain control, distress management, sleep hygiene, nutrition, and energy conservation

Bower et al., J Clin Oncol, 2014
Yun et al., J Clin Oncol, 2012
Mindfulness

- Mindfulness is an attribute of consciousness
- Long believed to promote well-being
- Awareness of present events and experiences
- Mindfulness-Based Stress Reduction (MBSR) was founded by Jon Kabat-Zinn
- Practices to cultivate non-judgmental acceptance of present-moment awareness

Xi et al., J Psycho Som Res, 2020
Mind and Body Practices: Mindfulness-based approaches

- MBSR has been shown in women with breast cancer to reduce individual symptoms of the following symptoms:
  - Fatigue
  - Mood disturbance
  - Stress-related anxiety
  - Depression, anger, and confusion
  - Improved sleep quality
  - Anxiety, fears of recurrence

Bower et al., J Clin Oncol, 2014
Legacher et al., J Behav Med, 2011
Mindfulness-based stress reduction (MBSR)

• Systematic review and meta-analysis of 15 randomized controlled trials (n=3008 participants) with mixed cancer types
• Results: significant reductions in fatigue compared to usual care or no intervention
• Eight weeks of MBSR, once a week for two hours, supervised by experts, has a significant effect on CRF

Xi et al., J Psycho Som Res, 2020
Mind and Body Practices: Resources for Mindfulness

- Progressive Muscle Relaxation (PMR)
- Mindful breathing, Mindfulness meditation
- Mind-Body Relaxation Resources 10-7-22.pdf
  (seattlecca.org)
Mind and Body Practices: Resources for MBSR

• Community Resources: find a local class
• Mindfulness Northwest (Seattle-based)
• Guided audio: awareness breathing, meditation, body scans
• https://mindfulnessnorthwest.com/practice/

Mindfulness Northwest, 2023
Psychosocial Service Resources

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<tr>
<th>Organization</th>
<th>Web address</th>
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<td>National Cancer Institute</td>
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<td>Fred Hutch Supportive Care Services</td>
<td>Supportive Care Services (fredhutch.org)</td>
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Mind and Body Practices: Yoga

- Yoga has been shown to improve fatigue and depression in cancer survivors
- Meta-analysis of 29 studies (n=1828 participants)
- Average duration of the intervention was 2.3 months
- Average length of each yoga session was 77 minutes
- Average number of sessions was 19.8
Mind and Body Practices: Acupuncture

• Acupuncture has been shown to improve fatigue in cancer survivors
• Systematic review and meta-analysis of 9 randomized controlled trials (n=809 participants)
• Six studies reported significant improvement in CRF compared to controls
• Duration ranged from 2-10 weeks
• Needle retention times ranged from 20-45 minutes
• Number of sessions ranged from 6-10
Natural Products:
Natural Products: Wisconsin Ginseng (Panax quinquefolius)

- A multisite, double-blind trial randomized fatigued cancer survivors
- Participants with all cancers, other than brain or CNS lymphoma, undergoing or having undergone curative intent treatment
- 2000 mg of American ginseng vs placebo for 8 weeks (n=364 participants)
- Result: A statistically significant difference in CRF was seen at 8 weeks favoring Ginseng

Barton et al., J Natl Cancer Inst., 2013
Integrative Medicine Clinical Practice Guidelines: SIO/ASCO
ASCO-Endorsed SIO Breast Cancer Guidelines

*High certainty* the net benefit is moderate to substantial

**Anxiety and Stress**
- Meditation, yoga, stress management, music therapy

**Depression and Mood Disturbance**
- Meditation, relaxation, massage, music therapy

**Quality of Life**
- Meditation, yoga

**Chemotherapy Induced Nausea & Vomiting**
- Acupressure, electro-acupuncture*

*ASCO gave an “I Statement” indicating they believe current evidence is inconclusive
SIO / ASCO Pain Guidelines

*Currently there is not enough evidence for use of natural products for pain or use of integrative therapies for pain in pediatric populations

Evidence quality = Intermediate
Strength of recommendation = Moderate

Aromatase Inhibitor-Related Joint Pain
• Acupuncture

General Cancer Pain or Musculoskeletal Pain
• Acupuncture, reflexology (during systemic therapy)

Procedural or Surgical Pain
• Hypnosis

Pain During Palliative Care
• Massage
Key Takeaways

- Integrative Medicine is the *coordinated use of evidence-based complementary therapies* like mind and body practices, natural products, and lifestyle modifications.

- Cancer-related fatigue (CRF) is a distressing, persistent, subjective sense of *physical, emotional, and/or cognitive tiredness or exhaustion* related to cancer or cancer treatment that is not proportional to recent activity and interferes with usual functioning.

- Contributing factors include cancer treatment, *nutrition, pain, depression, anxiety, emotional distress, sleep disturbances, and underlying medical conditions*.

- Evidence-based Integrative Medicine therapies to “combat” fatigue include *nutrition, physical activity, mindfulness, yoga, and acupuncture*.
Contact and Additional Resources

Contacting the Integrative Medicine service:
Patient Care Coordinator: (for non-patient specific questions)
  • Email: integrativemedtc@seattlecca.org
  • Phone: 206-606-5500

Additional resources:
External Website
https://www.seattlecca.org/services/integrative-medicine
Thank you

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